

~~44~~ (New) A method as set forth in claim 17 wherein the addition of the dispersion depresses the pour point of the petroleum or petroleum-derived liquid.

~~45~~ (New) A method as set forth in claim 17 wherein the addition of the dispersion reduces the viscosity of the petroleum or petroleum-derived liquid.

Please cancel claim 38.

Remarks:

Claims 20-31 have been amended to correct an obvious clerical error. The claims, which depend from method claim 17, are clearly intended to be method claims and have been so amended. New claims 39-42 have been added. Claims 39 and 41 find support in the specification at least at page 15, line 11, to page 16, line 5. Claims 40 and 42 find support in the specification at least at page 10, line 23, to page 11, line 5. Claims 43-45 find support in the specification at least at page 7, lines 24-26.

Claim 38, which has been objected to, has been cancelled, thus obviating the objection thereto as moot. Thus, withdrawal of the objection is respectfully requested.

Claims 36 and 38 have been rejected under 35 U.S.C. §112, second paragraph, for failure to provide antecedent basis for the phrase "the imidazoline corrosion inhibitor". The dependency of claim 36 has been corrected from claim 17 to claim 35, wherein the antecedent basis is found, and claim 38 has been cancelled. Thus, the subject rejection is believed to have been obviated and its withdrawal is respectfully requested.

Favorable reconsideration is respectfully requested of the rejection of claims 1-4, 14, 15, 17-20, 29, 30, 32 and 34 as being anticipated by or, in the alternative, obvious over the Fischer et al. patent. Claims 1-4, 14 and 15 are composition claims that call for, among other things, an aqueous external dispersion comprising a wax dispersant and an organic crystal modifier composition dispersed through a continuous water phase. The Fischer et al. patent is directed to the use of small quantities of oil-soluble or oil-dispersible copolymer additives to inhibit deposition of wax from soluble oils and from micellar dispersions. Col. 2, lines 29-34 of the Fischer et al. patent. The Fischer et al. copolymer is added neat to the soluble oil or micellar

dispersion, or is added as a solution of the copolymer dissolved in an organic solvent. Col. 2, lines 34-38 of the Fischer et al. patent.

Apparently, the Examiner's position is that the copolymer additives of Fischer et al. correspond to the crystal modifier called for in claims 1-4, 14 and 15. However, even assuming this position, because the copolymer additive is added directly (neat) to the soluble oil or micellar dispersion or is added in organic solution with no other component identified, the Fischer et al. copolymer additive is not a dispersion as called for by claims 1-4, 14 and 15, let alone an aqueous external dispersion as called for in claims 1-4, 14 and 15, nor is any component identified in the additive that would correspond to the wax dispersant called for in claims 1-4, 14 and 15.

Thus, it appears that the Examiner is comparing the dispersion of claims 1-4, 14 and 15 to the soluble oil or micellar dispersion treated with the Fischer et al. additive. However, at water concentrations less than the inversion concentration, the soluble oil compositions of Fischer et al. form emulsions that are oil-external, as opposed to the aqueous-external dispersions called for in claims 1-4, 14 and 15. Col. 6, lines 7-14 of the Fischer et al. patent. Although the Fischer et al. patent does not identify what the inversion concentration is, it does state that the water concentration of the soluble oil is less than 10% by weight and explains that soluble oil compositions of such water concentration should be viewed as "substantially anhydrous." Col. 6, lines 41-49 of the Fischer et al. patent. The fact that the soluble oil can be referred to as "substantially anhydrous" suggests that the water concentration is less than the inversion concentration. Thus, it appears that it is the treated micellar dispersion rather than the treated soluble oil that is being compared in the Office Action to the dispersion of claims 1-4, 14 and 15. In fact, in view of the specification portion to which the Office Action directs attention (i.e., col. 6, lines 49-54), the rejection apparently is based on comparing the claimed dispersion to the treated micellar dispersion, rather than to the soluble oil.

In any event, though, and, granted, the Fischer et al. patent states, as noted by the Examiner, that micellar dispersions may be water-external "micellar solutions, microemulsions and transparent emulsions composed of hydrocarbon, surfactant, stabilizing agent and aqueous medium," the Fischer et al. patent also states, regardless of whether the medium treated is soluble oil or micellar dispersion, that the medium also contains particular surface active materials "that when admixed with the liquid hydrocarbon cause the formation of microemulsions of the water-

in-oil type on the subsequent addition of water." Col. 7, lines 16-19. Thus, it appears from the Fischer et al. patent that the treated material is oil-external rather than water-external as required by claims 1-4, 14 and 15.

In addition, claims 1-4, 14 and 15 also call for a wax dispersant, which is defined in the specification as a surfactant (or combination of surfactants) that disperses waxes or wax-like materials through an aqueous phase. Page 9, lines 4-6. The subject Office Action does not identify what in the Fischer et al. patent is being construed as the wax dispersant of the subject claims. The subject specification defines the wax dispersant as a surfactant and the Fischer et al. patent mentions certain sulfonate surface active agents, suggesting that the Examiner might be interpreting the sulfonate surface active agents as the wax dispersant of the claims. However, the subject specification further defines the wax dispersant as a surfactant that disperses waxes or wax-like materials through an aqueous phase and there is no indication that the sulfonate surface active agents of Fischer et al. are wax dispersants as so defined. Indeed, Fischer et al. state that the wax deposition inhibitor of its composition is the copolymer, not the surface active agent. See, for example, the Fischer et al. Abstract and the explanation at col. 2, lines 29-34, that it is the addition of the copolymer that inhibits wax deposition. (Yet, the copolymer has been construed to be the crystal modifier of the claims and so cannot also be the wax dispersant).

The sulfonate surface active agents of Fischer et al. are added merely for their surfactant properties with respect to the oil-phase and water-phase; not for anything with respect to the wax in the oil phase. In fact, the differences in HLB ranges preferred in the subject invention (6-18) versus that called for in the Fischer et al. patent (3-7), while including a small overlap, highlight and are the result of the different utilities of interest in the two different situations. As shown in the tables at page 911 of Volume 8 of Encyclopedia of Chemical Technology, By Kirk Othmer, and at page 4 of Chapter 1 of The HLB System, by ICI Americas Inc., copies enclosed, compositions of HLB's of 3-7 have very different dispersion characteristics and have very different uses than have compositions of HLB's of 6-18. Thus, there is no indication in the Fischer et al. patent that the sulfonate surface active agents employed therein are wax dispersants as called for in claims 1-4, 14 and 15. Accordingly, it is submitted that the compositions called for in claims 1-4, 14 and 15 are patentably distinct from those described in the Fischer et al. patent.

Claim 17 calls for the addition of the dispersion defined in claim 1 to a petroleum or petroleum-derived liquid. Claims 18-20, 29, 30, 32 and 34, as amended, depend from claim 17. Because the dispersion called for in claims 17-20, 29, 30, 32 and 34, let alone the claimed application of the dispersion to a petroleum or petroleum-derived liquid, is nowhere taught or suggested by the Fischer et al. patent, it is submitted that the noted claims define patentably over the Fischer et al. patent.

New claims 39 and 41 depend from claims 1 and 17, respectively, and so define patentably over the Fischer et al. patent for the same reasons as discussed above with respect to claims 1 and 17. In addition, claims 39 and 41 call for the organic solvent to be present in an amount such that the crystal modifier makes up from about 3% to about 87%, by weight, of the total of the crystal modifier and the organic solvent in the dispersion. It is not clear what the Examiner views as the organic solvent in the Fischer et al. composition (or even what Fischer et al. composition the Examiner is considering to be a dispersion comparable to the compositions claimed) and so it is unclear how to compare the claimed concentration to the Fischer et al. patent. Therefore, if the Examiner believes that such concentrations are taught or suggested by the Fischer et al. patent, an explanation therefor is respectfully requested.

New claims 40 and 42 depend from claims 1 and 17, respectively, and so define patentably over the Fischer et al. patent for the same reasons as discussed above with respect to claims 1 and 17. In addition, claims 40 and 42 call for the wax dispersant to have an HLB of from about 8 to about 12. This additional feature further distinguishes the composition and method of the claims from the Fischer et al. compositions and methods. In particular, this feature further distinguishes the wax dispersant of the claims from the surface active materials of Fischer et al., which have an HLB of 3 to 7. As shown in the tables at page 911 of Volume 8 of Encyclopedia of Chemical Technology, By Kirk Othmer, and at page 4 of Chapter 1 of The HLB System, by ICI Americas Inc., copies enclosed, compositions of HLB's of 3-7 have very different dispersion characteristics and have very different uses than have compositions of HLB's of 8-12. Because the Fischer et al. patent explicitly calls for the HLB to be between 3-7, it clearly does not teach or suggest an HLB of from about 8 to about 12.

New claims 43-45 depend from claims 1 and 17, respectively, and so define patentably over the Fischer et al. patent for the same reasons as discussed above with respect to claims 1 and 17. In addition, claims 43-45 call for the addition of the dispersion to achieve a particular

effect in the petroleum or petroleum-derived liquid. The Fischer et al. patent is drawn to a different purpose and adds different compositions to different liquids. Thus, there is no indication that the Fischer et al. process achieves the effects called for in claims 43-45.

Thus, new claims 39-45 are submitted to be patentable over the Fischer et al. patent.

Favorable reconsideration is also respectfully requested of the rejection of claims 1-8, 14, 15, 17-23, 29, 30 and 33 as being obvious over the Fischer et al. patent in view of the McClaflin et al. patent. The noted claims define over the Fischer et al. patent as discussed above with respect to claims 1-4, etc., above. The McClaflin et al. patent does not make up for the deficiencies of the Fischer et al. patent. The McClaflin et al. patent has been cited for its reference to ethoxylated alkyl phenols, which the Examiner apparently has compared to the wax dispersants of the subject claims. As is clear from the subject specification and the Fischer et al. patent, micellar dispersions are compositions that require a complex coordination of chemistries, including careful solubility balance. Thus, for example, as discussed above, Fischer et al. require the surface active material to have an HLB of 3-7 (which indicates poor dispersion in water). By contrast, the ethoxylated alkyl phenols of McClaflin et al. are water-soluble. Nothing in either cited patent suggests combining their teachings, let alone in such a way that a micellar dispersion of Fischer et al. is selected and the water-soluble alkyl phenols of McClaflin et al. be selected for incorporation into the micellar dispersion, or even that the water-soluble alkyl phenols of McClaflin et al. could be incorporated into the Fischer et al. dispersion without disrupting the chemistry to destroy the dispersion. Thus, it is submitted that claims 1-8, 14, 15, 17-23, 29, 30 and 33 define patentably over the Fischer et al. patent in view of the McClaflin et al. patent.

Favorable reconsideration is also respectfully requested of the rejection of claims 1, 9-13, 16, 17, 24-28 and 31 as being obvious over the Fischer et al. patent in view of the McClaflin et al. patent and further in view of the Karydas et al. patent. The noted claims define over the Fischer et al. and McClaflin et al. patents as discussed above with respect to claims 1, etc., above. The Karydas et al. patent nowhere makes up for the deficiencies of the Fischer et al. and McClaflin et al. patents. Thus, claims 1, 9-13, 16, 17, 24-28 and 31 are submitted to define patentably over the Fischer et al., McClaflin et al. and Karydas et al. patents.

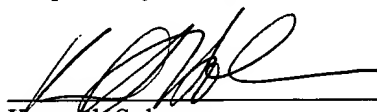
Favorable reconsideration is also respectfully requested of the rejection of claims 17 and 35-38 as being obvious over the Fischer et al. patent in view of the French et al. patent. Fischer et al. differs from the subject claims as discussed above. The French et al. patent does not make

up for the deficiencies of the Fischer et al. patent. Moreover, as explained in the subject specification, the French et al. patent is directed to water-in-oil emulsions as opposed to aqueous-external dispersions as claimed. Nothing in either cited patent teaches or suggests taking an imidazoline from the French et al. reverse emulsion and replacing the copolymer of the Fischer et al. composition with it, or that the resulting composition would be a micellar dispersion. Thus, claims 17 and 35-38 are submitted to be patentable over the Fischer et al. and the French et al. patents.

The remaining rejection is based on an assertion of obviousness-type double patenting. Upon receipt of an indication that the application is otherwise in allowable condition, applicant will submit a terminal disclaimer to obviate this rejection.

In view of the foregoing, it is submitted that the application is in condition for allowance, subject only to the double patenting rejection. Accordingly, favorable reconsideration and early indication of allowability, subject only to the double patenting rejection, are earnestly solicited.

Respectfully submitted,



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